



The Velox Book

2001



The working
of a simple
paper
told in
simple terms.

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PIERCE
DIANA

ngston

Velox may be safely manipulated ten feet from the ordinary gas flame.

REVISED
APRIL, 1909

VELOX

Velox the Original

Velox is the original "gas light" or developing-out paper. Up to the time Velox was introduced (1889) the amateur photographer was practically dependent on daylight and the more or less slow printing-out papers, and on dark, cloudy days printing had to be entirely suspended. When Velox was first introduced most photographers were skeptical as to results and could comprehend neither the economic nor the artistic possibilities of the new product.

A careful trial proved its value and soon Velox was almost universally used whenever the saving of time was important.

To the amateur Velox was especially welcome, as its speed afforded ample time for making prints and its various surfaces gave opportunity to produce artistic results previously impossible.

The fact that prints could be made at any time of day or night, by any light, quickly popularized this product among the users of photographic papers.

Adapta- bility

Velox is suitable for every class of work, as is fully demonstrated under the heading of "Surfaces and Grades." Velox should not be confused with Bromide or any other paper; it has distinctive

qualities of its own which have never been successfully imitated. Many improvements have recently been made in its manufacture and to-day Velox is the perfected product of years of experiment.

The different surfaces and grades in which it is manufactured enable the user to produce good prints from almost any negative, suiting his taste as well as the peculiar requirements of the negatives.

Surfaces and Grades Velox is made in six different surfaces and divided broadly into two grades of papers, called "Regular" and "Special." As these trade terms have reference to speed and contrast and not surface, we could as well say "slow" and "fast" or "hard" and "soft." In each grade will be found a variety of surfaces. Choose the surface which best suits you and which will harmonize with the subject of your picture. Select your negatives, remembering that the "Regular" papers print slowly, but develop quickly, and are adapted for negatives lacking contrast, and known as "thin" or "weak" negatives. "Special" papers require shorter exposure and longer development (as compared with the "Regular") and are for use with "contrasty" negatives. Such negatives are also referred to as being strong, thick, dense or hard.

Royal Velox differs from the other Velox papers in that it is coated on a stock having a cream tint, just a soft mellow tone that prevents harshness in the high lights. The stock is somewhat heavier than the usual Velox stock, about half-way between the single and the double weight.

Royal Velox prints are delightful when developed in the ordinary way, but to get their full value should be re-developed. See page 27.

Royal Velox is furnished in both "Regular" and "Special," but in one weight of paper only.

Any negatives which will produce good results with printing-out paper should be printed on Special, while Regular Velox is adapted to negatives which are too soft for other photographic papers, or when hard, contrasty prints are required.

To those familiar with Velox paper it is an easy matter to select the grade which is best suited for the results desired. The novice, however, is guided usually by the advice of others and often is misled into using a wrong grade of Velox, thereby failing to secure the results expected, and is inclined to believe that the paper is at fault. The following table of grades and weights of Velox should be an aid to those contemplating using this paper:

SURFACES, WEIGHTS AND GRADES OF VELOX

GRADE	SURFACE	SPEED
*Velvet Velox	Semi-Gloss	Special
*Velvet Velox	Semi-Gloss	Regular
*Portrait Velox	Smooth Matte	Special
Carbon Velox	Matte	Regular
Carbon Velox	Matte	Special
*Rough Velox	Matte	Special
Glossy Velox	Enameled	Regular
*Glossy Velox	Enameled	Special
Royal Velox	Matte	Regular
Royal Velox	Matte	Special

*Furnished also in Double Weight Velox; double weight papers require no mount and when printed under a mask which will insure a white margin, afford a very artistic effect.

Velox Glossary

In order that the beginner may understand and be fully informed, the following glossary has been compiled, including all technical terms indispensable in describing the characteristics and manipulation of Velox:

Abrasion Marks.

Black lines or markings produced on the surface of photographic paper by rubbing or pressure.

Actinic.

The "actinic rays" of light are those which produce chemical changes or photographic action.

Air Bells.

Bubbles on sensitized surface of prints, produced by immersing the paper too quickly, or face down in the developer.

Bath.

A term applied to a toning, developing or other solution.

Blisters.

(See article on page 32.)

Burnisher.

A device for securing a high gloss or polish on certain photographic papers.

Concentrated.

As applied to Nepera liquid preparations means that the chemicals which comprise them have been dissolved in the least possible quantity of water. (See pages 15 and 16.)

Contrasty.

A term applied to prints meaning hard, "chalky," extremely black shadows and white highlights; lacking in detail as applied to negatives.

Dense.

Applied to negatives which have been over-developed.

Desiccated.

Anhydrous. Dry powder, not crystals. Applied to chemical salts from which all water has been removed.

Developing-Out Paper or D. O. P.

Sensitized paper upon which the photographic image is invisible until development has taken place. Applied to "gaslight" papers or those printed by artificial light. Generally applied to papers which require longer exposure than Bromide papers.

Diffused Light.

Light which does not strike directly, but is arrested and diffused by some medium such as ground glass.

Dodge.

To dodge is to prevent light from striking a portion of a negative when printing by shading that portion with some opaque body.

Emulsion.

The sensitized coating which receives the image impressed through action of light rays.

Embossing Board.

A device for producing prints having countersunk margins.

Exposure.

The act of submitting sensitized surfaces to the action of light.

Fix, Fixing Out.

To settle or establish permanency of prints or negatives by destroying light sensitivity. (See Hypo.)

Flat.

Weak or thin, lacking contrast. (Applied to prints or negatives.)

Forcing.

Prolonging development of under-exposed prints, films or plates.

Ferro Tin, Ferrottype Plate.

Thin plates of Japanned iron especially prepared for squeegeeing prints.

Freaks.

Peculiar white markings caused by incorrect developing solutions. (See article, page 32.)

Fog. (Light)

Dim, grayish color produced by white light striking the paper before or during development. Hazy, dim appearance in lights and shadows, due to an error in the preparation of developer, or may be caused by impure condition of chemicals used. (See page 30.)

Half-Tones.

All gradations between highlights and deepest shadows.

Graduate.

A receptacle for measuring liquids. Nessler Solutions are contained in graduated bottles.

Hard.

Contrasty, lacking detail. Applied to negatives or prints.

Hardener.

(See Velox Liquid Hardener, page 18.)

High-Lights.

Brightest or whitest parts of an image. The denser portions of a negative or the lightest parts of a print.

Hydrometer.

An instrument for testing the specific gravity of liquids. (In photography, the silver Actinometer.)

Hypo.

Hyposulphite of soda. (See page 17.)

Latitude.

Refers to the limits within which exposure or development can safely be carried on.

Milky.

Appearance of an incorrect fixing bath. Often the result of using impure chemicals.

Negative.

The picture obtained in the camera by exposing a specially prepared glass plate or film, which when developed produces a reversed image and color,—right for left and black for white.

Non-Actinic. (Light)

Is known photographically as being a light which has no effect on sensitized surfaces.

Oxidation.

As applied to developer—a deterioration due to the presence of oxygen. An oxidized developer is dark in color and usually causes discoloration of the print.

Over-Exposure.

Too long exposure to printing light.

Over-Development.

Too long a time in the developing solution.

P. O. P. or Printing-Out Paper.

Sensitized paper upon which the image becomes visible on printing and is made permanent by toning and fixing.

Printing Frame.

A specially constructed frame for making prints. Holds the negative and sensitive paper in contact while printing.

Positive.

A term used in contradistinction to negative.

Precipitate.

A substance which, having been dissolved, is again separated from its solvent and thrown to the bottom of the vessel containing it.

Shadows.

The thinner portions of a negative or the darker portions of a print.

Squeegeeing.

Placing wet prints face down on ferrotype plates to obtain high polish.

Squeegee.

Usually a strip of soft rubber set in a handle, or a rubber roller, and used to place a print in contact with the ferrotype plate.

Squeegee Tins.

(See ferrotype plates.)

Soft.

Term applied to print or negative; refers to lack of brilliancy or contrast. A "soft" print will contain all possible detail.

Stretcher.

A light frame covered with cheese cloth on which prints may be laid to dry. (See page 19.)

Spotting.

Touching out spots or defects in finished prints with fine sable brush and India ink or spotting colors.

Ten Per Cent. Solution.

Approximately a solution made by dissolving one ounce (by weight) of dry chemical in nine fluid ounces of water.

Tone.

The shade, hue or degree of color prevailing in a negative or print.

Thick.

(See dense.)

Under-Exposure.

Too short an exposure for perfect results.

Weak.

Thin, soft, lifeless, lacking contrast.

Manipulation

Velox prints may be successfully made, using daylight for exposure, but we strongly recommend that artificial light be used, as it is much more uniform, and it will therefore be easier to obtain satisfactory prints. Select a north window, if possible, as the light from this direction will be more uniform. Owing to its sensitiveness the paper should be handled in very subdued light, otherwise it will be liable to fog. Proper precautions should be taken to pull down the window shades and darken the room sufficiently during manipulation. To test your working light, place an unexposed sheet of Special Velox, emulsion side up, on your work table in the same position that your developing tray occupies, cover one-half of it with a sheet of cardboard, and let it remain there two minutes, then develop it. If the half of the sheet which was uncovered turns gray or

black, and the covered portion remains white, it is a positive indication that the light you are using is too strong. If, however, the entire sheet remains white your light is safe. Never handle Velox in a light which will not stand this test. If the light is too strong for printing it should be subdued or diffused by the use of several thicknesses of white tissue paper. In the following instructions for manipulating Velox, it must be understood that artificial light, preferably gas with a Welsbach burner, will be the light used. A kerosene lamp, fitted with a round burner (known as Rochester burner), may be used, but owing to the decidedly yellow light this affords, a considerably longer exposure will be necessary than when using a Welsbach light.

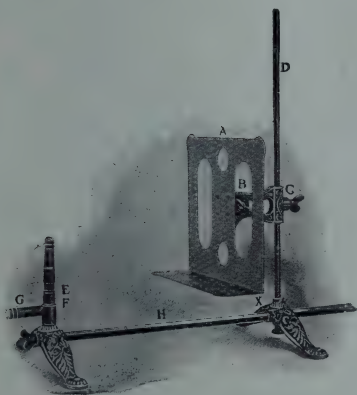
The comparative exposure with Regular and Special Velox with various sources of light is as follows:

	Size of Negative.	Distance from light	Welsbach Burner	32 c.p. electric or 6 ft. gas burner	16 c.p. electric or 4 ft. gas burner	Average oil lamp
SPECIAL VELOX	4 x 5 or smaller	7 inches	10 sec	20 sec.	30 sec.	40 sec.
REGULAR VELOX	4 x 5 or smaller	7 inches	40 sec.	80 sec.	2 min.	3 min.

This table is only approximate, as owing to the different lights used and the varying densities of negatives it is impossible to give an absolute rule. It serves, however, as a guide to enable the beginner to approximate the correct exposure. From this obtain the correct time, always being guided by the rule as to time of development given at top of page 14.

Printing Requisites

The absolute necessities for making Velox prints are few in number and simple in character. Either daylight or artificial light are of course essential, also developing solutions and water for washing the prints. The ordinary printing frame is used in making exposures. The artistic possibilities of Velox make it worthy of the study of all photographers and a convenient apparatus for measuring the distance from the light and for adjusting each negative to the proper angle of exposure is of great assistance. As an aid we recommend the Velox Amateur Printer, not only to help those who are already making good Velox prints, but to assist the beginner in mastering the delightful art of Velox printing in the shortest possible time.



The construction of the Velox printer is simple and it is furnished with attachments for use either with gas or electricity.

Aside from suitable light and work room, you will require:

3 trays, preferably enameled iron (a full size larger than the prints to be made).

1 printing frame (and glass to fit, if films are to be printed.)

1 4-oz. graduate.

1 bottle Nepera Solution.

1 bottle Velox Liquid Hardener.

1 lb. Crystal or Granulated Hypo.

1 package each Regular and Special Velox.

Arrange the three trays before you on your work table in this order:

2 ozs. Nepera Solution 4 ozs. Water 1	Clean Water 2	X Towel 4 ozs. Hypo 16 ozs. Water 1 oz. Hardener 3
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In the center of the above spaces we have indicated the solution which each tray should contain for developing Regular Velox. If Special is used, double the quantity of water should be added to the developer (Tray No. 1). Do not be too sparing of the amount of the solutions used, especially of your fixing bath (Tray No. 3); if making three or four dozen prints (4 x 5) use a full pint (see formula, page 18); and do not keep it after using, as a fresh bath will give best results.

Proper temperature is important and for best results the developer should be 70 degrees Fahr. and the fixing bath and wash water 50 degrees Fahr. If the developer exceeds 70 degrees the prints are liable to fog and the emulsion soften. If too cold, chemical action is retarded, resulting in flat, weak prints.

You are now ready for exposure and
Printing the printing frame should be filled.

Place the sensitized side of the sheet of Velox against the film side of the negative, the paper curls slightly, the sensitive side being concave. An absolute test is to bite the corner of the sheet, the sensitive side will adhere to the teeth.

Place the printing frame the correct distance from the artificial light used, holding the frame away from the burner a distance equal to the diagonal of the negative. To prove that the light is evenly diffused at the point selected for exposure, take a piece of white cardboard, the size of the negative, and move its position with reference to the light, until you find the shortest distance at which an even illumination is secured. A few seconds exposure will be required when printing an average negative on Special Velox. Regular Velox needs from four to five times as much exposure as Special, if in using both grades the printing frame is held at the same distance from the light. We suggest that before making the first exposure the cutting of a piece of Velox paper into strips about an inch wide and placing one of them over an important part of the negative, make the exposure, using your best judgment as to the distance from the light and the time of printing. Develop it, and if not satisfactory try another strip, varying the time as indicated by the first result. When the desired effect is secured, you can make any number of prints from the same negative, and if the time of exposure, distance from light as well as the time of developing are identical, all the prints should be equally good. By comparing your other negatives with the one you have tested, you will be able to make a fairly accurate estimate of exposure required by any negative.

After taking the exposed piece of paper from the printing frame, in a safe place previously selected, it is ready for development. The *dry*

print should be immersed face up in the developer (Tray No. 1) and quickly and evenly covered with the solution. *Regular Velox should be developed to the proper depth in from fifteen to twenty seconds; Special, about thirty seconds.* With our prepared liquid developers, the addition of Bromide of Potassium is unnecessary, the correct proportion being in the solution. As soon as the image has reached the desired depth remove from the developer to the tray (No. 2) and rinse for a moment, turning the print several times, then place it in the acid fixing bath (Tray No. 3), *keeping the print moving for a few seconds, the same as was done when rinsing, so as to give even and thorough fixing, preventing stains and other troubles.* Leave the print in this solution until thoroughly fixed; this will take about fifteen minutes. When fixed remove from the fixing bath and wash thoroughly for about an hour in running water, then dry. After drying, prints may be trimmed and mounted.

You should be systematic in working, remembering that cleanliness is essential in photography. Care must be taken to prevent the Hypo in any way getting into the tray containing the developer. Have a clean towel when beginning the work and wipe your hands each time after you have handled prints in Hypo solution.

Notes on Development Velox requires a special developer and should not be used with one made for plate and film development only. (Nepera Solution, however, is a universal developer—see page 16.) Various developing agents are used in the production of Velox prints and are marketed under different trade names, such as Amidol, Ortol, Edinol, Metol and Hydroquinone, etc. Amidol affords a very blue-black tone, but owing to rapid oxidation, a fresh solution should be mixed each time prints are to be made. Ortol and Edinol afford very satis-

factory results. It has been proved, however, that Metol and Hydroquinone in combination yield the very best results on Velox when used in the proportion given in our formula. Owing to the difficulty many have in securing absolutely pure chemicals and the trouble and subsequent loss of material to those attempting to compound their own developers, we recommend the use of our liquid developers, Nepera Solution and N. A. Velox Liquid Developer, for Velox papers. To those who prefer to prepare their own solution, we advise the following formula:

**M-Q De- (Dissolve chemicals in the order
veloper named.)**

METRIC
SYSTEM

Water.....	10 ozs.	=300 c. c.
Metol.....	7 grains	= $\frac{1}{2}$ gramme
Hydroquinone.....	30 grains	=2 grammes
Sulphite Soda (desiccated).....	110 grains	=7 grammes
Carbonate Soda (desiccated).....	200 grains	=13 grammes
10 per cent. solution Bromide Potassium.....	40 drops	=40 drops

This solution will keep indefinitely if placed in bottles filled to the neck and tightly corked. It should be used full strength for "Regular Velox," but should be diluted with equal parts of water when "Special" papers are developed.

**N. A. Velox
Liquid
Developer**

This is an excellent ready to use, concentrated developer for Velox papers. Unlike any other developer, it has certain qualities which make it unique in photographic work. N. A. (non-abrasion) means that all abrasion or friction marks, to which all glossy developing-out papers are particularly susceptible, will be prevented by this solution. Another feature is the guide it gives to thorough fixing—the print is not absolutely fixed until the canary yellow color entirely disappears by fixing in a correctly prepared Acid Hypo Bath. This developer yields the softest possible prints when undiluted and it is well to remember that **THE STRONGER THE DEVELOPER, THE SOFTER THE PRINT.**

The following formula should be used for Special Velox:

N. A. Velox Liquid Developer.....	1 oz.
Water	4 ozs.

Developer for Regular Velox:

N. A. Velox Liquid Developer.....	2 ozs.
Water	4 ozs.

It is important that the temperature of the developing solution should be 70 degrees Fahr. In summer, if found necessary to cool the developer, do not place ice *in* the solution, as it will dilute it. Place the tray containing developer into one of larger size, packing ice around it. N. A. DEVELOPER SHOULD NOT BE USED FOR DEVELOPING PLATES, FILMS OR BROMIDE PAPERS.

Nepera Solution This is known as the "universal" developer because it may be used not only for Velox, but Azo, Bromide paper, films or plates. Like all Nepera Liquids, it is a concentrated solution with the combination of purest chemicals which will give the best results. It differs from N. A. Velox Liquid Developer in that it does not possess the non-abrasion and fixing-guide properties; but on the other hand, when used in combination with Nepera Capsules, it is excellent for films or plates, giving negatives of the quality best suited for developing-out paper.

For Regular Velox use:

Nepera Solution	2 ozs.
Water	4 ozs.

For Special Velox use:

Nepera Solution	1 oz.
Water	4 ozs.

The temperature of the bath should be 70° Fahr.

For Bromide papers use:

Nepera Solution	1 oz.
Water	6 ozs.

For Film in Kodak Film Tank or Kodak Developing Machine use:

Nepera Solution	$\frac{1}{2}$ oz.
Water	12 ozs.
Contents of one Nepera Capsule.	
Develop for twenty minutes.	

Without Tank or Developing Machine, using factorial system, 10 is the factor, use:

Nepera Solution	$\frac{1}{2}$ oz.
Water	12 ozs.
Contents of one Nepera Capsule.	
Temperature should be 60 degrees Fahr.	

Fixing Sodium Hypo-Sulphite (or Hypo as commercially termed) may be obtained for use in either a granulated or crystal form. Its purpose is to dissolve the silver salts which have not been acted upon by light. The importance of this chemical is evident, but it is probable that no part or process of photography is more abused than that of correctly preparing a fixing bath and properly fixing prints. To secure permanency prints *must* be fixed in a fresh, acid fixing bath. When Hypo is first dissolved in water, the temperature of the solution is materially reduced. *It is important that the temperature of a fixing bath should be maintained as near to 50 degrees Fahr. as possible.* Probably more prints change color from insufficient fixing than lack of washing, so these points should be given attention. Have plenty of solution strong enough to thoroughly fix prints in at least fifteen minutes. *Always use the acid hardener in the bath, as it will overcome the tendency of the fixing bath to cause blisters and stains, and move the prints about for the first few seconds after immersion to stop the action of the developer at once over the entire surface of the print.*

Our formula for preparing the Acid Hypo fixing bath is as follows:

Water	64 ozs.
Hyposulphite of Soda (crystal or granulated).....	16 ozs.

When thoroughly dissolved, add the following hardening solution, dissolving the chemicals separately and in the order named:

Water	5 ozs.
Sulphite of Soda (desiccated).....	$\frac{1}{2}$ oz.
Acetic Acid No. 8 (containing 25 per cent. pure acid).....	3 ozs.
Powdered Alum	1 oz.

This solution will keep, and one pint of it will fix at least one-half gross of 4 x 5 prints. If sulphite and carbonate of soda in crystal form are substituted for desiccated, double the quantities mentioned should be used.

Amateurs will find it is advisable to use our prepared solutions and the concentrated Velox Liquid Hardener is especially recommended.

Water	16 ozs.
Hyposulphite of Soda.....	4 ozs.
Velox Liquid Hardener.....	1 oz.

Notes The finished prints must be entirely free from Hypo. To wash
on a batch of 100 4 x 5 prints, using
Washing two trays of suitable size and transferring each print separately from one tray to the other, changing the water at least twelve times, will take a full hour for the process. In running water where the prints can be kept constantly moving so that each individual print has a thorough washing, from one-half to one hour, according to the number of prints, will be required. Prints do not wash if piled in a bunch in a tray and the water simply runs in at one end of the tray and out of the other. In some localities where there is an excessive amount of iron or impurity in water, the whites in the prints may have a

slight yellowish tone. Prints should not be allowed to wash any longer than is necessary to completely free them from hypo. The temperature of the water in winter should be kept as uniform as possible, as ice cold water will cause blistering. When running water is used for washing, the stream should not be allowed to fall directly on the prints as it will cause breaks in the fibre of the paper, producing blisters. Place a tumbler or graduate in the washing tray and allow the water to run into it and overflow into the tray. To determine when the print is thoroughly free from hypo, the following test formula may be successfully employed:

Permanganate of Potash.....	8 gr.
Caustic Soda	7 gr.
Water (distilled).....	8 ozs.

Fill a glass with pure water to which you have added 3 or 4 drops of the potash solution. Then take a couple of prints from the wash-water and allow the water from the prints to drip into the glass. If hypo is present, the violet color of the water in the glass will change to a slight greenish tint in from five to seven minutes. In such case return prints to the washwater to remain until similar tests show that the hypo has been entirely eliminated.

Drying After prints have been thoroughly washed, remove from the wash-water and place on a clean glass in a pile face down and press out superfluous water. Then lay out separately, face down on cheese-cloth stretchers. These may be constructed by making a frame work of light wood and tacking unbleached cheese-cloth tightly over it. Prints dried in this manner will curl but a trifle.

If stretchers are not to be had, dry the prints face down on clean, uncolored cloths, or towels, which are free from lint.

Never Dry Velox prints *between* blotters or on papers. They are likely to stick and cause much annoyance.

Enameled Surface Paper | Glossy and Special Glossy Velox prints can be burnished or squeegeed. Take prints from the wash-water and place face down on a ferrotyp^e tin, squeegee into absolute contact and allow to become bone dry, when they will peel off with the desired luster. If the tin has been in use for some time, portions of prints may stick; to prevent this, prepare the tins as follows:

Dissolve ten grains of beeswax in one ounce of benzine; allow this to stand for a few hours, in which time a precipitate will be formed. The clear solution should be used for polishing the tins, applying to the surface of the ferrotyp^e plate with a soft cloth (canton flannel). When the surface of the tin has been thoroughly covered with this preparation, the tin should be polished with a piece of dry canton flannel to remove as much of the beeswax as possible. As beeswax varies in its composition to a certain extent, the solution may vary somewhat in consistency so that an addition of benzine may be necessary to permit polishing the tins easily.

Clean the tins occasionally with scalding water, in order to remove any particles of gelatine which may remain on them from former prints.

Mounting | Velox prints should be trimmed to size desired before mounting. They should be dry and perfectly flat for trimming, and a trimming board should be used instead of a knife or ruler, for with the board absolutely true edges may be obtained.

The simplest and most satisfactory way to mount prints is by using the Kodak Dry Mounting Tissue, as by this process the prints are mounted in absolute contact and will not curl even on the thinnest mounts,—especially advantageous in multiple mounting.

Two prints may be mounted back to back, and being free from curl can then be used as an album leaf.

The Kodak Dry Mounting Tissue is dry and not sticky to handle, mounting is accomplished quickly and no time is lost waiting for prints to dry after mounting.

Any size print may be mounted with the tissue, and as the tissue is water-proof there is no possibility of the print becoming stained from any chemical in the mount stock.

To use the tissue, lay a print on its face and tack to its back a piece of the tissue of the same size, by applying the point of a hot iron to small spots at opposite ends.

Turn the print face up and trim print and tissue to desired size. Place in proper position on mount, cover the print with a piece of smooth paper and press the whole surface with a hot flat iron; press, don't rub.

The iron should be just hot enough to siss when touched with a wet finger. If the iron is too hot the tissue will stick to the mount and not to the print; if too cold, the tissue will stick to the print and not to the mount.

Remedy—lower or raise the temperature of the iron and apply it again.

For mounting with paste the following plan is best to employ:

After prints are trimmed, immerse them in a tray of clean water, allowing them to soak long enough to become thoroughly limp. Remove to a good sized piece of clean glass, placing them in a pile face down. Cover with a piece of clean blotting paper and with a roller squeegee press all the superfluous water

from the pile. Then with a good bristle paste brush apply a thin, even coating of starch paste. Raise the print by taking hold of the two opposite corners and turning it over, place in position on the mount. Lay a clean, dry blotter over the print and with the roller press into contact. Any lint or fuzz from the blotter, or any paste on the surface of the print should be immediately removed with a soft sponge or dampened cloth. Any imperfections in the finished print may be corrected by spotting, using a fine sable brush and spotting color of India ink. Care should be exercised to select mounts which harmonize with the tone of the print. If Sepia prints are to be mounted, any shade of brown or some of the deeper reds may be used, but these same mounts would not be suitable for black and white tones. For the black and white prints any shade of gray, carbon black, buff or cream color may be successfully used.

Double weight papers may be mounted solid, but are best used for folder effects. A very artistic way of making prints with the Double Weight is to use a sheet of paper considerably larger than the negative to be printed from. This will necessitate the use of a larger frame ($6\frac{1}{2} \times 8\frac{1}{2}$ or 8×10). Have a piece of clear glass the full size of the frame and fasten your negative to the centre of this glass with strips of gum paper, cut a mask of opaque paper the full size of your glass and from the centre cut an opening at least one-quarter of an inch smaller than the size of the negative. Place the mask in the printing frame between the paper and the negative, then print and develop the exposed paper in the usual way. This will give a print with a very wide white margin and when thoroughly dried and straightened, by using an embossing board, an imprint or counter-sunk margin about half an inch around the edges of the print will give a fine etching or engraving

effect. Enclosed in a folder mount made of cover paper of desirable tone, you have as artistic a result as can be produced.

**Finishing
Velox
Post
Cards**

The process of making prints on Velox Post Cards is identically the same as that for making Velox prints. The cards are sensitized on one side only and the reverse side is printed to conform with the Canadian postal regulations. A printing frame and glass a size larger than the negative should be used, and the cut outs found in each package of cards may be used for masking the negative. Place the mask between the negative and the sensitized side of the Post Card and the result will be that when exposed, developed and fixed the same as an ordinary sheet of Velox paper, you will have your picture at one end of the card surrounded with a white edge of the part which was protected by the opaque mask. Your negative should be selected the same as when printing with Velox paper and both Regular and Special Post Cards should be used. Where contrast is desired, the Regular Velvet or Regular Royal Post Cards will give the best results and should always be used with thin negatives; the Special Velvet, Special Portrait, Special Rough, Special Glossy and Special Royal Post Cards should be used for stronger negatives and when soft effects are desired.

**Double
Printing**

Effective and artistic work may be done on Velox Post Cards by double printing. By this process gray borders and ground may be produced. The work requires careful and exact cutting of the necessary opaque masks and accurate registry of the cards when printing. Provide a number of pieces of clear glass, cut to size 5 x 7 (old negatives from which the emulsion has been thoroughly cleaned by soaking in a solution of hot water and salsoda are

suitable), also a few sheets of opaque paper the same size (5 x 7). From one of these papers make a mask as shown in Fig. 1.

Measure from edges A and B a space five-eighths of an inch wide, then cut an opening 2 x 3 inches through which your negative and card are to be exposed. Fasten the negative with strips of adhesive paper to one of the pieces of clear glass, placing that portion to be printed directly under the opening in the mask. Adjust glass, negative and mask in printing frame, lay on the Velox Post Card, sensitized side down, so that one end covers the opening in the mask. Be careful to have edges A and B of glass, mask and card fit flush against the corresponding sides of the printing frame. Expose to printing light, giving correct time required for a perfect print, remove the entire outfit from the printing frame and insert glass and matt No. 2, which you will have previously prepared, as shown in Fig. 2.

From another piece of opaque paper 5 x 7 cut an opening 3 x 5 inches and measure exact so as to leave margins of one-quarter inch on the sides A and B. Gum this matt securely to another glass, then cut a piece of opaque paper $2\frac{1}{4} \times 3\frac{1}{4}$ inches and gum this in clear space at a distance of exactly one-half inch from edges A and B. Place this entire outfit in printing frame, lay on Velox Post Card, previously exposed under No. 1 matt, fit edges flush into the corner of the frame and expose. This second exposure should be just enough to produce the desired tint, governing time by grade of Velox used. If the exposure has been too great the border will be dark, if under-exposed the border tint will be light. A little practice may be necessary in order to secure the tint desired.

Now, if you have made all measurements accurately and exposure and development have been correct, you will have in a finished post

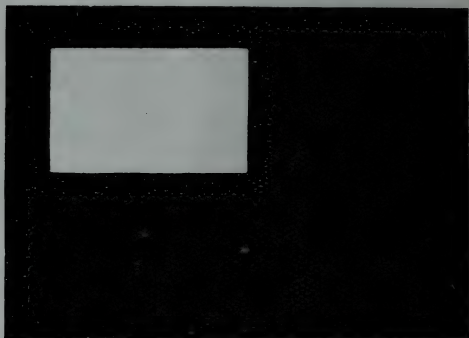
card your picture 2 x 3 in size surrounded by a gray border one-quarter of an inch wide on top and one side, one-half inch wide at bottom and one and one-half on other side. The tint of this border should be a slaty gray and should harmonize with the black tone of your print.

Other forms, such as ovals and circles, may be made and the process for their making is the same as already described.

No. 1

B

A

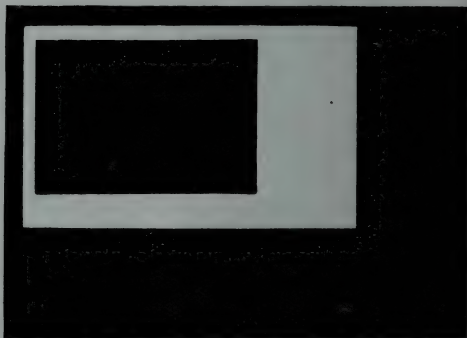


Shaded portion represents opaque paper. White portion shows part cut out.

No. 2

B

A



Shaded portion represents opaque paper. White portion shows part cut out.

Sepia Tones on Velox

There are occasions when it is desirable to modify the tone of Velox prints, in order to secure some effect more in keeping with the subject than the original color produced by development only. The Sepia tone is permanent and may be secured in various ways, but we will describe only two of these: the first known as the hypo-alum process, and the second, Velox Re-development. The hypo-alum process is a slow and somewhat uncertain way of obtaining good results and consists of a solution of hypo and powdered alum in boiling water, into which, when cooled, the prints are immersed and left until the desired tone has been reached. The process requires from one to twelve hours and is uncertain in exact results. The Velox Re-development process will give the best results in a much shorter time, yielding equally pleasing and permanent tones. Prints on any grade or surface of Velox, except glossy, afford most pleasing tones when re-developed, but re-development is perhaps specially advantageous for prints on Royal Velox, as the process brings out and accentuates the full value of the soft, creamy stock upon which Royal Velox is coated; the finished prints possessing an almost indescribable softness and delicacy.

Velox prints of any grade or surface which have been evenly and thoroughly fixed and washed will give desirable results with the Re-developer, but some subjects, such as marines and snow scenes, are best rendered in the black and white. Landscapes, autumn scenes and portraits are given greater artistic values by the warmth of tone which the Re-developer affords.

A package of Re-developer consists of a box of 14 Capsules and a bottle of Solution. Each Capsule contains chemicals which require only the addition of a certain quantity of water and

a few drops pure aqua ammonia to make a bleaching bath for the reduction of the print before re-development. The liquid contained in the bottle is highly concentrated and should be used carefully, the entire contents of a 4 oz. bottle being sufficient to re-develop about four hundred 4 x 5 Velox prints. It is important that the prints should have been thoroughly washed so that no trace of hypo remains. Placing the black and white print in the bleaching solution, let it remain until all trace of black has disappeared from the shadows; it should then be removed and rinsed thoroughly in fresh water, then placed in the re-developing solution, where the faint image immediately changes to a warm brown tone, gradually deepening until all its former brilliancy returns, but changed to a Sepia tone instead of black and white. A final washing is then given the print, the whole process requiring only a short time, so the advantages of using this over the hypo-alum process are quite evident.

Velox Re-developer will also produce excellent Sepia tones on any Bromide or gas-light paper; the age of the print does not seemingly make any difference in the tones obtainable. Best results are obtained from prints which have a good bluish black tone, rather than a green or olive tone, such as is produced by the use of too much Bromide. Both the bleaching and re-developing baths will retain their strength for some time, if kept in well stopped bottles. If the prints show a tendency to blister, it doubtless comes from not having used sufficient hardener in the fixing bath when making the black and white prints. Too strong a solution of Re-developer or too long immersion in this solution will also cause blisters. After re-development and before the final washing the prints may be immersed in a hardening bath composed of Velox Liquid Hardener, 1 ounce; water, 16 ounces. This will correct any tendency to blister.

The use of pure aqua ammonia is recommended and the ordinary household ammonia should be avoided. This chemical clears the whites and does not change the tone unless an excessive amount is used.

How to Make Prints from Wet Negatives The negative must be thoroughly washed and freed from any trace of hypo. Immerse a piece of Velox paper in clean water for a few seconds, then placing it on the film side of the wet negative squeegee it carefully so as not to break the film. Expose without the use of a printing frame. After exposure place both negative and paper in water, allowing them to soak for a moment before trying to separate them. Develop and fix the print in the usual way.

How to Make Good Starch Paste Ordinary gloss starch dissolved in just enough cold water to make a thick solution is prepared, and enough boiling water poured into it so it thickens in a clear, translucent jelly. Set aside and when cool remove the skin which forms and use the clear paste.

To Remove Friction Marks from Glossy Velox Prints Rub the surface of the dry print with a tuft of cotton wet with wood-alcohol. Do not rub hard enough to break the surface of the film and be careful to have the print on some level surface, such as a piece of glass.

N. A. Velox Liquid Developer entirely prevents abrasion marks.

After a careful perusal of the instructions given in this Velox Book you should be able to produce satisfactory results on any grade of Velox paper.

Causes of Non-Success

By consulting the following causes of failure you will probably be able to locate any trouble you may have had.

Paper found to be defective through fault in manufacture will be exchanged free of charge, if returned before the expiration date which is stamped upon each package.

If you are unsuccessful and believe that you have defective paper, return the unexposed sheets in original package, together with a print showing nature of the defect, and we will make a test, notifying you promptly as to the cause of your non-success.

Prints are too black.

Negative too weak or thin.

Over-exposure.

Over-development.

Insufficient Bromide of Potassium.

Perhaps wrong grade of paper used, try
Regular Velvet Velox.

Prints are too light, lack detail.

Under-exposure.

Negatives too dense for Regular paper.

Use Special Velvet, or Special Portrait
Velox.

Grayish whites throughout entire print.

Chemical or light fog.

Insufficient Bromide of Potassium in developer.

Old paper.

Grayish Mottled or granulated appearance of edges or entire print.

Under-exposure, forced development.

Old paper.

Paper kept in damp place.

Moisture.

Chemical Fumes, Ammonia, etc.

Illuminating or coal gas.

Greenish or brownish tones sometimes mottled.

Developer too old or too weak.

Excess of Bromide of Potassium.

Over-exposure.

Greenish yellow stains noticed when N. A. Velox Liquid Developer has been used.

Under-exposure and forcing.

Canary yellow stains produced when N. A. V. L. D. has been used.

Fixes out entirely in correctly prepared acid Hypo bath.

(See page 18 for formula.)

The entire disappearance of this color insures correct fixing.

Brown or red stains.

Old or oxidized developer. (Never use developer after it is much discolored or muddy.) Imperfect fixing.

Developer too warm.

Fixing bath lacks sufficient acid and prints were not kept moving to allow even fixing. (See page 18.)

Purple Discoloration. (Not frequent.)

Velox paper has been used as a printing-out paper.

Incomplete fixing.

Round white spots.

Air-bells on the surface of paper.

To avoid, develop prints face up, brushing off any air-bells that may form.

Round or irregular dark spots.

Caused by air-bells forming on the surface of print when placed face down in fixing bath, and failing to keep prints in motion.

White deposits all over surface of prints.

Milky Hypo bath.

If print is thoroughly washed and deposit removed before drying it does no harm.

Correct fixing bath by adding more No. 8 Acetic Acid.

Picture good, but surface covered with black marks.

Abrasion marks. (See page 15.)

Blisters.

Prints have been creased or broken while washing.

Do not allow water from the tap to fall directly on the prints.

Too strong acetic acid used in Hardener.

Too great difference between temperature of solution and wash-water.

Fixing bath lacks sufficient hardener.

Never use a plain Hypo fixing bath; always acidify with Velox Liquid Hardener.

Blisters occurring during re-development.

(See page 28.)

Freaks.

Picture develops irregularly and appears to be covered with greasy streaks and finger marks and gives the impression that there are spots on the paper which have never been coated. Of all complaints received regarding Velox paper, none are caused by any condition more annoying than this "freak" trouble. It is annoying to the photographer because he feels sure the fault is in the paper, and annoying to us because we know that the fault lies in incorrect solutions. We publish herewith a half-tone of this curious effect. It is in warm weather when the humidity is great that these "freaks" most frequently occur.



*Developed in M. Q., half as strong as that
advised in instruction sheet.*



*Developed in M. Q., strength as
advised in instruction sheet.*

Undoubtedly the paper absorbs moisture unevenly and in certain spots becomes repellent to the action of an incorrect developer. In making up a developing solution it is absolutely essential that pure chemicals be used, and as Velox

requires a bath which contains nearly twice as much Carbonate of Soda as Sulphite of Soda, it is easy to see that any mistake made in the proportion of either chemical would be apt to cause trouble. The remedy for "freaks" is to throw out your developer and mix a fresh solution, and if necessary use it stronger.

Yellowish whites when other than N. A. has been used.

Stain all over prints is result of under-exposure and forcing.

Prints not kept moving for the first few seconds after immersion in the acid hypo fixing bath.

Too weak developer.

Insufficient washing after fixing.

Iron in wash-water—may come from rust in water pipes.

Sea air will affect Velox, causing yellow whites, so packages should not be left open and prints should be developed immediately after exposure.

Permanency The permanency of Velox prints has never been questioned. Permanency of any Velox print depends upon the thoroughness of manipulation. It is beyond question that with correct developer freshly prepared and with thorough fixing and washing, Velox prints will be absolutely permanent. Many dealers have sample prints which were sent them years ago and have exposed them continually to every conceivable atmospheric condition. This is an unanswerable argument in favor of Velox permanency.

Price List of Single Weight Velox.

SMALL SIZES									
2 1/4 x 2 1/4	2 1/2 x 4 1/4	3 1/2 x 3 1/2	3 x 4	3 1/4 x 5 1/2	4 x 5				
2 1/2 x 2 1/2	\$.15	\$.15	\$.15	3 1/4 x 4 1/4	3 7/8 x 5 1/2 (Cabt.)				
2 1/4 x 3 1/4	.60	.80	.70	4 x 4	3 1/4 x 6				
2 1/2 x 3 1/2	1.00	1.25	1.25	4 1/4 x 4 1/4	3 7/8 x 5 7/8				
2 1/4 x 3 3/4				3 1/2 x 4	4 1/4 x 5 1/2				
				2 1/4 x 7	4 x 6				
Dozen				\$.15	\$.25				
1/2 Gross80	1.10				
Gross				1.50	2.00				
SIZE			Dozen	1/2 Gross	Gross				
4 1/4 x 6 1/2	\$.30	\$ 1.65	\$ 2.80	11 x 14	\$ 1.60				
4 3/4 x 6 1/2	.35	1.90	3.25	12 x 15	1.80				
5 x 7	.35	2.00	3.50	14 x 17	2.40				
5 x 7 1/2	.40	2.15	3.75	16 x 20	3.20				
5 x 8	.40	2.25	4.00	17 x 20	3.40				
3 1/2 x 12	.45	2.50	4.50	18 x 22	4.00				
5 1/2 x 7 3/4	.45	2.50	4.50	20 x 24	4.80				
6 x 8	.50	2.75	5.00	22 x 27	6.00				
6 1/2 x 8 1/2	.60	3.25	6.00	24 x 30	7.20				
7 x 9	.65	3.75	7.00	25 x 30	7.50				
7 1/2 x 9 1/2	.75	4.25	8.00	24 x 36	8.70				
8 x 10	.80	4.75	9.00	30 x 40	12.00				
9 x 11	1.00	5.75	11.00	40 x 60	24.00				
10 x 12	1.20	7.00	13.50	40 x 72	28.80				

VELOX IN ROLLS FOR CIRKUT NEGATIVES

Single Weight

ROLLS	6 Inches Wide	6½ Inches Wide	8 Inches Wide	10 Inches Wide	16 Inches Wide
25 ft.	\$1.50	\$1.65	\$2.00	\$2.50	\$4.00
50 ft.	3.00	3.30	4.00	5.00	8.00
100 ft.	6.00	6.60	8.00	10.00	16.00

Double Weight

25 ft.	1.90	2.10	2.50	3.15	5.00
50 ft.	3.80	4.20	5.00	6.30	10.00
100 ft.	7.60	8.40	10.00	12.60	20.00

Price List—Continued

Velox Post Cards—Regular Velvet, Special Velvet, Special Portrait, Special Rough, Special Glossy, and Regular and Special Royal, 20 cents per dozen; \$1.10 per ½ gross; \$2.00 per gross.

These are pieces of Double Weight Velox, 3 ½ x 5 ½ inches, on the uncoated sides of which is printed matter in accordance with the Canadian Postal Laws, while the sensitive sides are to be treated in the same way as the regular product.

Velox Double Post Cards, 3 ½ x 11 inches, Velvet (Special and Regular), Portrait (Special) and Rough (Special), per dozen, 40 cents; ½ gross, \$2.20; gross, \$4.00.

Brownie Velox Post Cards, 2 ¾ x 4 ¼, Velvet, Special or Regular, per doz., 15c.; half gross, 80c.; gross\$1.50

N. A. Velox Liquid Developer, 4-oz. bottle (makes 20 ozs. for Special, 12 ozs. for Regular)25

N. A. Velox Liquid Developer, 16-oz. bottle..	\$0.75
Non-Abrasion M. Q. Developer Tubes, per box of 3 tubes.....	.25
Nepera Solution, 4-oz. bottle, a Universal De- veloper (see page 17).....	.20
Do., 16 ozs.....	.60
Nepera Capsules, per doz.....	.15
Nepera M. Q. tubes, Non-Abrasion, box of 5 tubes75
Kodak Acid Fixing Powder, 1-lb. package....	.25
Do., $\frac{1}{2}$ lb.....	.15
Do., $\frac{1}{4}$ lb.....	.10
Velox Liquid Hardener, 8-oz. bottle (sufficient to acidify 8 pints of Hypo Solution).....	.25
4-oz. bottle15
Velox Re-developer, per package containing 14 capsules of bleaching agent and 4 ozs. of Concentrated Re-developer.....	.50
Do., 2-oz. bottle, per package.....	.30
Carbonate of Soda (desiccated), per 1-lb. bottle20
Sulphite of Soda (desiccated), per 1-lb bottle	.30
No. 1 Velox Amateur Printer.....	2.00
Welsbach Attachment (extra). Consisting of burner, mantle and large chimney.....	1.25
Extra Mantles, each.....	.15
Tubing, 6 ft. lengths. For connecting printer with gas supply50
Electric attachment (extra) comprising socket and plug connected by 6 ft. cord.....	.75

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to spoil good films, good
plates and good papers
with cheap chemicals

To be sure they're pure in-
sist on the mark that de-
notes the Kodak Quality:



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**Insures Absolute Contact
Without Curl, Even on
the Thinnest Mounts**

ALL DEALERS

CANADIAN KODAK CO.
Limited
TORONTO, CAN.

THE DANGER SIGNAL

When the photographer fixes a negative he can tell from its appearance whether or not it IS fixed. With prints he has never had any such guide—and many faded ones have been the result.

But the N. A. Velox Liquid Developer puts out a danger signal. It turns the print a canary yellow, and the color does not disappear until fixing is complete.

Fifteen minutes in the Acid Fixing Bath will remove this color every time, unless the bath has been weakened by overworking or has been too much diluted. If the color remains the print isn't fixed—if it disappears it is fixed, and, moreover, IT WILL be permanent.

The yellow color on the prints has led some people to believe that there is cyanide in the N. A. Developer. This is positively not the case. It contains no cyanide or other dangerous poison.

The N. A. Developer absolutely does away with abrasion marks on Glossy Velox.

Velox, N. A. Velox Liquid Developer, Velox Hardener—they work best together.

CANADIAN KODAK CO., Limited,
Toronto, Can.

